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09/711,362	11/10/2000	Yoshiaki Yokoyama	Yaguchi-0016	6786

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EXAMINER

LEUNG, JENNIFER A

ART UNIT PAPER NUMBER

1764

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-26

<b>Office Action Summary</b>	Application No. 09/711,362	Applicant(s) YOKOYAMA ET AL.	
	Examiner Jennifer A. Leung	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 21 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 25.                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The Amendment submitted on January 21, 2003 has been received and carefully considered. The changes to the Specification and Drawings submitted are acceptable. Claims 21-32 have been cancelled. Claims 1-20 and 33 remain active.

### *Claim Objections*

2. Claim 15 is objected to because of the following informalities: -- pressure -- should be inserted before "regulation" for consistency in claim terminology.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to the relationship of "the second hermetic chamber has hermetically openable and closeable door" to "a second hermetic chamber... with the hermetic door therebetween", set forth in claim 9.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 5-6, 9, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwai et al. (U.S. 5,562,383).

With respect to claim 1, Iwai et al. (FIG. 11; column 16, line 34 - column 17, line 16; column 20, lines 9-18; see also description for operation of auto shutter **256** in FIGs. 19, 22 and column 27, lines 25-33, 45-54) disclose a treatment apparatus comprising:

- A first hermetic chamber (i.e. process tube **101**) having a first opening (i.e. at the base of the "inverse-U" chamber);
- A tube (i.e. wafer boat **106**) capable of inserting into the first opening, wherein the tube **106** comprises a second opening on a side facing the first hermetic chamber **101** (i.e. a second opening which enables loading of the wafers onto the wafer boat **106**); and
- A hermetic door (i.e. auto shutter **132**) capable of opening and closing the first opening, the door **132** being shielded from the first hermetic chamber **101** by the tube **106** when the tube is inserted into the first opening.

With respect to claim 5, invoking 35 U.S.C. 112, Sixth Paragraph, Applicants disclose on page 27, lines 20-22 of the specification, "means for regulating temperature" may comprise "a heating means, a temperature sensor, and the like", wherein the "heating means" may comprise, "various kinds of heating means such as convection, radiation, and the like". Iwai et al. further disclose a means for regulating a temperature in the first hermetic chamber **101** comprising a heating means (i.e. heater **105**; column 16, lines 34-39; FIG. 11), and the Examiner takes Official Notice that a temperature sensor for the heater **105** would be inherent to the apparatus of Iwai et al. since the use of temperature sensors for heating apparatus is well known in the art.

With respect to claim 6, invoking 35 U.S.C. 112, Sixth Paragraph, Applicants disclose on

page 109, lines 13-16 of the specification that the "means for guiding an inserting operation of the tube" may comprise "a guide mechanism, a guide rail, a guide roller, or the like". Iwai et al. further disclose a means, placed along the inserting direction of the tube **106**, for guiding an inserting operation of the tube (i.e. a "guide mechanism" comprising transfer mechanism **107**, boat elevator **107A** and ball screw unit **107B**; column 16, lines 61-65; FIG. 11).

With respect to claim 9, Iwai et al. further disclose a second hermetic chamber (i.e. load lock chamber **108**) adjoining the first hermetic chamber **101** with the hermetic door **132** there between, wherein the tube **106** is inserted into the first opening of the first hermetic chamber **101** from the second hermetic chamber **108** (FIG. 11; column 16, line 53 to column 17, line 16).

With respect to claim 18, Iwai et al. further disclose the tube **106** is removable, and the second hermetic chamber **108** has a hermetically openable and closeable door **120** or **121** for replacing the tube with a second tube (FIG. 11; column 15, lines 54-62; column 19, line 37 to column 20, line 8).

With respect to claim 20, Iwai et al. further disclose a means for supplying a non-oxidizing gas to the second hermetic chamber **108** (i.e. N<sub>2</sub> gas delivery pipe **129** connected to a N<sub>2</sub> gas supply source, not shown; FIG. 11; column 16, lines 55-61).

Instant claims 1, 5-6, 9, 18 and 20 structurally read on the apparatus of Iwai et al.

5. Claim 33 is rejected under 35 U.S.C. 102(b) as being anticipated by Tejima et al. (JP 10-099815).

Tejima et al. (Abstract; FIG. 2, 8) disclose a treatment apparatus comprising:

- A hermetic zone within a hermetic chamber (i.e. decomposition or pyrolysis furnace **20**);
- An exhaust system connected to the hermetic chamber **20** for exhausting the hermetic

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zone (i.e. sections [0086] and [0205]);

- A means for heating the interior of the hermetic zone (i.e. "convection-current heating, radiation heating, etc."; section [0165]);
- A reforming means (i.e. gas decomposition apparatus or gas resolver **30**; section [0177]-[0178]), placed between the hermetic zone and the exhaust system, for reforming a gaseous emission produced by heating the object to be treated; and
- A means for controlling process conditions of the heating means (i.e. "thermometry means as a temperature control means to adjust the 1<sup>st</sup> temperature of the pyrolysis furnace **20**"; section [0165]) and the reforming means (i.e. inherently, a means for controlling "the 2<sup>nd</sup> temperature" to be set at a given temperature for dioxin decomposition; section [0179]).

Although Tejima et al. are silent as to whether the object to be treated is heated "after the reforming means reaches a state capable of reforming the gaseous emission", the apparatus of Tejima et al. meets the claim, since the process conditions under which the object is to be heated are of intended use, which hold no patentable weight in apparatus claims. In any event, heating the object under such process conditions is inherent of the apparatus of Tejima et al., since Tejima et al. disclose that the reforming means is maintained at conditions capable of reforming the gaseous emissions, i.e. at a 2<sup>nd</sup> temperature such that "the dioxin which originates in a processing-object object directly or indirectly decomposes as much as possible" (section [0179]).

Instant claim 33 structurally reads on the apparatus of Tejima et al.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tejima et al. (JP 9-248549) in view of Legille (U.S. 3,907,261).

With respect to claim 1, Tejima et al. disclose a treatment apparatus comprising a first hermetic chamber (i.e. airtight container **601**) having a first opening (i.e. right wall in FIG. 8) and a hermetic door capable of opening and closing the first opening (i.e. partition **610**; section [0294]). Tejima et al. further disclose a vaporized metal recovery means, wherein the vaporized metal generated from treatment object **612** in chamber **601** is exhausted to a recovery chamber **611** upon opening of the door **610** (section [0296]). However, Tejima et al. are silent as to whether the vaporized metal recovery means may comprise a tube capable of inserting into the first opening, such that the door **610** for the first opening, is shielded from the first hermetic chamber **601** by the tube when the tube is inserted into the first opening, and wherein the tube comprises a second opening on a side facing the first hermetic chamber **601**. Legille (FIG. 1) teaches an exhaust valve assembly for venting contaminated gases from a furnace, said assembly comprising a tube **17** capable of inserting in an opening (i.e. valve seat defining member **8**) of a sealed housing **2** such that upon insertion, a hermetic door (i.e. valve flap **7** comprising sealing ring **13**) is shielded from direct impingement of furnace gas being vented (column 4, lines 9-30), and wherein tube **17** further comprises a second opening (i.e. at the base of the tube) on a side facing the sealed housing **2**. It would have been obvious for one of ordinary skill in the art at the

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time the invention was made to provide the exhaust valve assembly according to the configuration of Legille for the vaporized metal recovery means in the apparatus of Tejima et al., since such a configuration would enable the venting of exhaust gas while protecting the door against erosion, corrosion, and the deposit of particulate matter entrained in the exhaust gases being vented, as taught by Legille.

With respect to claim 2, Tejima et al. further disclose an exhaust system **606** connected to the first hermetic chamber **601** via the first opening (FIG. 8; section [0295]).

With respect to claim 3, Legille further teaches that the exhaust valve assembly passes exhaust gases from the furnace via tube **17** (FIG. 1; column 4, lines 44-68). Therefore, in the modified apparatus of Tejima et al., the same configuration would apply (i.e. the exhaust system **606** would connect to the first hermetic chamber **601** via the tube).

With respect to claim 4, Legille further teaches that tube **17** of the exhaust valve assembly has a third opening in an area opposite chamber **2** with the hermetic door **7** being positioned between the second opening (i.e. at the base of the tube **17**) and the third opening (i.e. at the top of the tube **17**) when the tube is inserted into the first opening **8**. Therefore, in the modified apparatus of Tejima et al., the same configuration would apply.

With respect to claim 5, Tejima et al. further disclose a means for regulating a temperature in the first hermetic chamber **601** (i.e. control system **610**; FIG. 7, 8; sections [0285]-[0286]).

With respect to claim 6, Legille further teaches that the exhaust valve assembly further comprises a means, placed along the inserting direction of the tube **17**, for guiding an inserting operation of the tube (i.e. comprising supporting arm **18**, roller mechanism **19** and vertically



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extending frame 20; FIG. 1; column 4, lines 4-9). Therefore, in the modified apparatus of Tejima et al., the same configuration would apply.

With respect to claim 7, Tejima et al. (FIG. 6; sections [0289]) further disclose an embodiment of the invention wherein the first hermetic chamber 601 may comprise a plurality of the first openings (i.e. openings communicating with plural chambers 605 and plural exhaust systems 606). Furthermore, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide the tube and the hermetic door at each of the first openings in the modified apparatus of Tejima et al., on the basis of suitability for the intended use and absent showing unexpected results thereof, since the duplication of part was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960).

With respect to claim 8, Tejima et al. (FIG. 2, 9) further disclose an embodiment of the invention wherein a plurality of the first hermetic chambers (i.e. 102, 103) are linearly arranged, said plurality of the first hermetic chambers being partitioned off by openable and closeable partitions (i.e. partitions 105c, 105d)

With respect to claim 9, Tejima et al. (FIG. 8; section [0294]) further disclose a second hermetic chamber (i.e. the recovery chamber 611 from above) adjoining the first hermetic chamber 601 with the hermetic door 610 there between. In the modified apparatus of Tejima et al., the tube would inherently be inserted into the first opening of the first hermetic chamber 601 from the second hermetic chamber 611.

With respect to claim 10, Legille (FIG. 1) further teaches that tube 17 of the exhaust valve assembly has a third opening on a side opposite to chamber 2 (i.e. at the top of the tube 17)

when the tube is inserted into the first opening 8. Therefore, in the modified apparatus of Tejima et al., the same configuration would apply.

With respect to claim 11, Tejima et al. further disclose exhaust system 606 is connected to the first hermetic chamber 601 via the second hermetic chamber 611 (FIG. 8; section [0295]).

With respect to claim 12, in the modified apparatus of Tejima et al., the third opening of the tube (i.e. top of the tube 17 of Legille; FIG. 1) and the exhaust system 606 would be hermetically connected when the tube is inserted into the first opening of the first hermetic chamber 601, since the disclosed components of the apparatus of Tejima et al. are each hermetically sealed.

With respect to claims 13 and 14, invoking 35 U.S.C. 112, Sixth Paragraph, Applicants disclose on page 27, line 23 to page 28, line 5 of the specification that the "means for performing pressure regulation" may comprise "an exhaust means, a pressurizing means, and a pressure measuring means" wherein the "exhaust means" may comprise "various kind of vacuum pumps", the "pressurizing means" may comprise a gas introduced into the system, and the "pressure measuring means" may comprise "a Bourdon tube, a Pirani gauge, or the like". Tejima et al. further disclose means (i.e. a "pressure control system" comprising a "pressurization system", an "exhaust system" and a "pressure sensor"; section [0286]; FIG. 7) for performing pressure regulation for the second hermetic chamber 611 and the first hermetic chamber 601. In the modified apparatus of Tejima et al., the provision of a tube for the first hermetic chamber 601 via the second hermetic chamber 611 inherently defines "a space" between the tube and the second hermetic chamber 611, and therefore, the means for performing pressure regulation would inherently perform pressure regulation in such space. Although the

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collective teachings of Tejima et al. and Legille are silent as to whether pressure regulation may be performed on the apparatus such the pressure in the space is higher than the pressure in the first hermetic chamber **601**, or whether the pressure in the first hermetic chamber **601** may be lower than the pressure in the space and higher than the pressure in the tube, the modified apparatus of Tejima et al. meets the claim, since the specific pressures within the apparatus are of intended use, which hold no patentable weight in apparatus claims. The means for performing pressure regulation of Tejima et al., which comprises the recited structural elements, is thus capable of performing the recited functions, and therefore it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select an appropriate pressure for the respective chambers in the modified apparatus of Tejima et al., on the basis of suitability for the intended use and absent showing unexpected results thereof, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, *In re Aller*, 105 USPQ 233.

With respect to claim 15, Tejima et al. further disclose the means for performing pressure regulation has a means for supplying a carrier gas to the second hermetic chamber **611** (i.e. "it may be made to connect a carrier gas introduction system to the recovery chamber **611**"; section [0294]), and thus, inherently, to a space between the tube and the second hermetic chamber.

With respect to claims 16-17, Tejima et al. further disclose the provision of a filter means comprising a wet filter (i.e. exhaust gas washing apparatus **2006** with alkaline-water shower, for example; section [0339], [0344], [0347]) in a separate embodiment of the invention. Therefore, it would have been an obvious design choice for one of ordinary skill in the art at the time the

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invention was made to provide a filter means, such that it were placed between the second hermetic chamber **611** and the exhaust system **606**, in the modified apparatus of Tejima et al., since the filter means would enable the purification of exhaust gas to environmentally safe levels, as taught by Tejima et al.

With respect to claim 19, Tejima et al. further disclose a means for regulating a temperature in the second hermetic chamber **611** (i.e. "temperature control means", not shown; sections [0294], [0297]).

With respect to claim 20, Tejima et al. further disclose a means for supplying a non-oxidizing gas to the second hermetic chamber **611** (i.e. "it may be made to connect to a carrier gas introduction system; section [0294]).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 33 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-6, 8-9 and 11-21 of U.S. 6,332,909. Although the conflicting claims are not identical, they are not patentably distinct from each other.

U.S. '909 (i.e. claims 12, 17 and 18) claims a treatment apparatus comprising:

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- A hermetic zone within a hermetic chamber for housing an object to be treated;  
i.e. “a gas tight chamber capable of holding the object being processed;”
- An exhaust system connected to the hermetic chamber for exhausting the hermetic zone;  
i.e. “at least a means for recovering the lead vaporized from the object being processed,  
the recovering means connected to the gas tight chamber;”
- A means for heating the interior of the hermetic zone;  
i.e. “a temperature adjusting means for adjusting a temperature in the gas tight chamber;”
- A reforming means, placed between the hermetic zone and the exhaust system, for  
reforming a gaseous emission produced by heating the object to be treated;  
i.e. “a reforming means for reforming the gaseous effluent generated from the object;”
- A means for controlling the heating means and the reforming means;  
i.e. “a first [and second] controlling means for controlling the temperature adjusting  
means”, and a means for controlling the reforming means, inherently, “... at such a  
second temperature that decompose[s] dioxins.”

Although U.S. ‘909 does not specifically claim that the object to be treated is heated “after the reforming means reaches a state capable of reforming the gaseous emission”, the claimed apparatus of U.S. ‘909 meets the instant claim since the process conditions under which the object is to be heated are of intended use, which hold no patentable weight in apparatus claims. In any event, heating the object under such process conditions is inherent of the apparatus of U.S. ‘909, which recites that the reforming means has reached a state capable of reforming the gaseous emissions, i.e. “at such a second temperature that decompose[s] dioxins”.

*Response to Arguments - Amendment filed January 21, 2003*

8. Applicant's arguments (page 12, second paragraph to page 13, first paragraph) with respect to the rejection of claims 1-3 and 5 in view of Kemper under 35 U.S.C. 102(b) have been considered and are persuasive, and therefore the rejection of the claims has been withdrawn.

9. Applicant's arguments (page 13, second paragraph) with respect to the rejection of claims 1-3 and 5 in view of Bell et al. under 35 U.S.C. 102(b) have been fully considered and are persuasive, and therefore the rejection of the claims has been withdrawn.

10. Applicant's arguments (page 13, last paragraph to page 14, first paragraph) with respect to the rejection of claim 33 in view of Tejima et al. (JP 09-0248549) under 35 U.S.C. 102(b) have been fully considered and are persuasive, and therefore the rejection of the claim has been withdrawn. However, upon further consideration, a new grounds of rejection has been made in view of Tejima et al. (JP 10-099815).

11. Applicant's arguments (page 14, paragraph 2) regarding the rejection of claims 1-3, 5-9, 11, and 13-20 with respect to Tejima et al. (JP 09-248549) in view of Legille under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new grounds of rejection has been made, based on the reinterpretation of the references.

12. Applicant's arguments (page 14, last paragraph to page 15, second paragraph) with respect to the rejection of claims 1-2, 5, 8-9, 11, 13-15 and 19-20 under obvious-type double patenting of U.S. 6,332,909 have been fully considered and are persuasive, and therefore the rejection of the claims has been withdrawn.

13. Applicant's arguments with respect to the rejection of claim 33 under obvious-type

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patenting of U.S. 6,332,909 have been fully considered, but are not considered persuasive. In response to applicant's argument that, "the cited claims do not recite or suggest a means for controlling the heating means and the reforming means so that the object to be treated is heated after the reforming means reaches a state capable of reforming the gaseous emission," (page 13, last paragraph to page 14, paragraph 2; page 15, last paragraph), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). As commented above, the claimed "means for controlling the heating means and the reforming means" of U.S. '909 are capable of performing such a function, and therefore the apparatus meets the claim.

#### *Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kato is provided to illustrate the process of pressure regulation in a multi-chambered vacuum heat treatment furnace.

\* \* \*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is 703-305-4951. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer A. Leung  
April 7, 2003

*JAL*

*Hien Tran*

**HIEN TRAN  
PRIMARY EXAMINER**